

```
1 //Program 4
2 //CIS 199-02
3 //GRADING ID: B5992
4 //DUE: Tuesday, 4/24/2017
5 //This program collects information about a package and then tells you the cost to ship the package from the
6 //specified origin zip to the specified destination zip in a list box. It also contains features such as the
7 //details button that tells you all the details of the package as well as the send to uofl and send from uofl
8 //buttons that change the origin or dest zip and recalculate the price.
9 using System;
10 using System.Collections.Generic;
11 using System.Linq;
12 using System.Text;
13 using System.Threading.Tasks;
14
15 namespace Program_4
16 {
17     public class GroundPackage
18     {
19         private int _originZip; //backing field for origin zip.
20         private int _destZip; //backing field for destination zip.
21         private double _length; //backing field for length.
22         private double _width; //backing field for width.
23         private double _height; //backing field for height.
24         private double _weight; //backing field for weight.
25
26         //Precondition: Length, width, height, weight all > 0. origin zip and destination zip
27         // are > 00000 and <99999.
28         //Postcondition: A package has been constructed with the specified properties.
29         public GroundPackage(int oZip, int dZip, double length, double width,
30             double height, double weight)
31         {
32             OriginZip = oZip;
33             DestinationZip = dZip;
34             Length = length;
35             Width = width;
36             Height = height;
37             Weight = weight;
38         }
39
40         public int OriginZip
41         {
42             //Precondition:None
43             //Postcondition: origin zip has been returned.
44             get
```

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45     {
46         return _originZip;
47     }
48     //Precondition: origin zip is > 00000 and <99999
49     //Postcondition: origin zip has been set to specified value.
50     set
51     {
52         if (value > 00000 && value < 99999)
53         {
54             _originZip = value;
55         }
56         else
57         {
58             _originZip = 90210;
59         }
60     }
61 }
62
63 public int DestinationZip
64 {
65     //Precondition: None
66     //Postcondition: Returns destination zip.
67     get
68     {
69         return _destZip;
70     }
71     //Precondition: Value > 00000 and <99999
72     //Postcondition: Sets dest zip to specified value.
73     set
74     {
75         if(value > 00000 && value < 99999)
76         {
77             _destZip = value;
78         }
79         else
80         {
81             _destZip = 90210;
82         }
83     }
84 }
85
86
87 public double Length
88 {
89     //Precondition: None
90     //Postcondition: Returns the length.
91     get
92     {
93         return _length;
```

```
94     }
95     //Precondition: value > 0
96     //Postcondition: Length has been set to the specified number.
97     set
98     {
99         if(value > 0)
100         {
101             _length = value;
102         }
103         else
104         {
105             _length = 1.0;
106         }
107     }
108 }
109
110 public double Width
111 {
112     //Precondition: None
113     //Postcondition: Returns width
114     get
115     {
116         return _width;
117     }
118     //Precondition: value>0
119     //Postcondition: Width has been set to the specified number.
120     set
121     {
122         if (value > 0)
123         {
124             _width = value;
125         }
126         else
127         {
128             _width = 1.0;
129         }
130     }
131 }
132
133 public double Height
134 {
135     //Precondition:None
136     //Postcondition: Returns the height.
137     get
138     {
139         return _height;
140     }
141     //Precondition: value>0
142     //Postcondition: Height has been set to the specified number.
```

```
143         set
144         {
145             if (value > 0)
146             {
147                 _height = value;
148             }
149             else
150             {
151                 _height = 1.0;
152             }
153         }
154     }
155
156     public double Weight
157     {
158         //Precondition: None
159         //Postcondition: Returns the weight
160         get
161         {
162             return _weight;
163         }
164         //Precondition: value >0
165         //Postcondition: Weight has been set to the specified number.
166         set
167         {
168             if (value > 0)
169             {
170                 _weight = value;
171             }
172             else
173             {
174                 _weight = 1.0;
175             }
176         }
177     }
178
179     public int ZoneDistance
180     {
181         //Precondition: None
182         //Postcondition: Returns the zone distance.
183         get
184         {
185             int zoneDist; //To hold zone distance.
186             zoneDist = Math.Abs((_originZip / 10000) - (_destZip / 10000));
187             return zoneDist;
188         }
189     }
190     //Precondition:None
```

```
191 //Postcondition: Returns the price it costs to ship the package.
192 public double CalcCost()
193 {
194     return .20 * (Length + Width + Height) + .5 * (ZoneDistance + 1) *
        (Weight);
195 }
196 //Precondition: None
197 //Postcondition: Returns a string representation of the package
    details.
198 public override string ToString()
199 {
200     return "Origin Zip: " + OriginZip + System.Environment.NewLine
201         + "Destination Zip: " + DestinationZip + System.Environment.NewLine
202         + "Length: " + Length + System.Environment.NewLine
203         + "Width: " + Width + "\n" + "Height: " + Height
            + System.Environment.NewLine
204         + "Weight: " + Weight + System.Environment.NewLine;
205 }
206 }
207 }
208 }
209 }
```